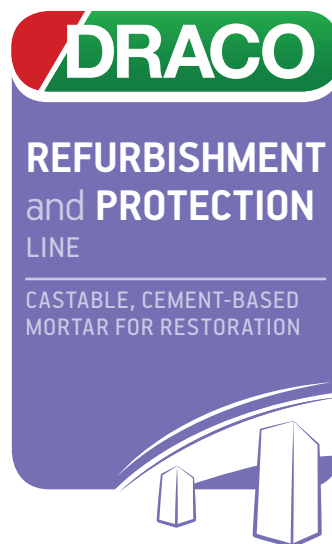
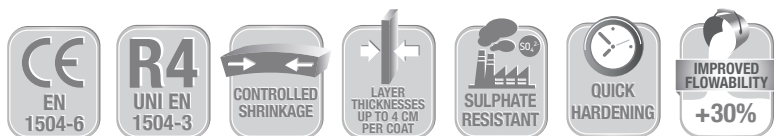


FLUECO 80 C QUICK

FAST-SETTING, SHRINKAGE-COMPENSATED,
CASTABLE MORTAR WITH SUPERIOR DURABILITY
SUITABLE FOR STRUCTURAL REPAIRS

Ideal in very aggressive environments layer thickness up to 4 cm.



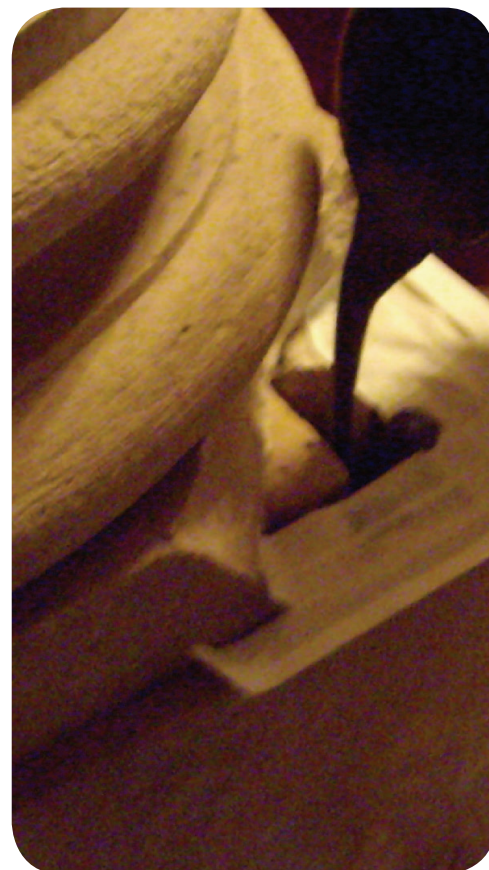
FLUECO 80 C QUICK is a fast-setting, pourable, rheoplastic mortar that is shrinkage-compensated. It contains hydraulic binders, selected aggregates and water-soluble polymers and is suitable for casting. **FLUECO 80 C QUICK** has high adhesion to steel and concrete, superior ductility and is waterproof and long-lasting even in highly aggressive environments. **FLUECO 80 C QUICK** is used for maintenance, structural repairs and restoration in industrial and urban areas with high concentrations of aggressive agents.

When carrying out structural repairs adequate reinforcement is necessary; this reinforcement must be placed so that at least 1 cm of rebar cover is left.

BENEFITS

The characteristics of **FLUECO 80 C QUICK** make it suitable for maintenance, structural repairs and restoration of concrete buildings that undergo dynamic stress and are subject to high physical, chemical and environmental attacks. The specific characteristics of the product are:

- ✓ **RESISTANCE TO AGGRESSIVE AGENTS:** **FLUECO 80 C QUICK** is not subject to carbonation and has high resistance to aggressive agents present in the environment such as chlorides and sulphates. Thanks to the chemical and physical characteristics of its components **FLUECO 80 C QUICK** is totally waterproof, and resistant to thermal stress.
- ✓ **FAST-SETTING:** the use of **FLUECO 80 C QUICK** enables fast repairs to be carried out, without over-reducing instalment times. **FLUECO 80 C QUICK** maintains good workability for approx. 15 - 20 minutes according to ambient temperature.
- ✓ **MAXIMUM FLUIDITY:** thanks to its fluid consistency and the additives it contains **FLUECO 80 C QUICK** flows easily even when there is complex reinforcement, thus facilitating its installation even when working on large areas.
- ✓ **SUPERIOR RESISTANCE TO ABRASION AND STRESS:** **FLUECO 80 C QUICK** ensures high resistance to dynamic stress even after short curing, as well as resistance to wear, abrasion and knocks.
- ✓ **HIGH ADHESION AND PULL-OUT RESISTANCE:** **FLUECO 80 C QUICK** was specifically formulated to increase adhesion to steel and concrete ensuring a solid repair that provides excellent resistance to the slipping of steel rods.
- ✓ **ABSENCE OF CRAZING AND CRACKS CAUSED BY PLASTIC SHRINKAGE:** **FLUECO 80 C QUICK** has no crazing or plastic shrinkage cracks, thus prolonging the useful life of concrete structures and reducing maintenance.



WHERE TO USE

FLUECO 80 C QUICK should be used for the structural repair, maintenance and restoration of damaged concrete and reinforced concrete structures exposed to aggressive environments. **FLUECO 80 C QUICK** is particularly suitable for:

- ✓ Repair and lift of concrete in thicknesses up to 4 cm per layer.
- ✓ Restoration of infrastructures, bridges and viaducts that undergo harsh stress.
- ✓ Repair of structures exposed to high chemical, physical and environmental attacks.
- ✓ Fast repair of floors and manhole mountings.

REFERENCE STANDARDS

FLUECO 80 C QUICK meets the requirements defined by EN 1504-9 "Products and systems for the protection and repair of structures: definitions, requirements, quality control and evaluation of conformity" general principles for the use of products and systems."

FLUECO 80 C QUICK meets the minimum requirements defined by EN 1504-3 "Structural and non-structural repair" for structural mortars of class R4."

APPLICATION INSTRUCTIONS

SUBSTRATE CLEANING

- ▶ **remove all flaking parts** from the concrete in the area to be repaired, including grout slurry, either by mechanical chipping or pressure washing and taking care not to damage the structures.
- ▶ **remove spots, efflorescence or soaked-in stains** of grease oils, paints, lime, dust, dirt etc.;
- ▶ **remove any earlier repairs** if irreparably damaged or deteriorated;

SUBSTRATE PREPARATION

- ▶ **roughen the surface** mechanically by bush hammering, chiselling or pressure washing (this last avoids damage to the substrate and is recommended for large areas) to reach the sound, compact concrete and enhance bonding between the mortar and substrate. The surface should be roughened with unevenness to a depth of at least 5 mm while the edges around the area to be repaired must be scarified to a depth of at least 10 mm with a sharp edge finish. Roughening of the surface layer is needed both to promote bonding of the mortar, and to ensure the expansive properties develop correctly.
- ▶ **wet the surface with water under pressure to saturation.** This procedure avoids the substrate absorbing water from the mix as this could lead to cracking and reduce the bonding strength of the mortar. This operation also allows the removal of any fragments remaining from the roughening of the concrete substrate. Excess water must be removed with compressed air jets or with cloths.

REBAR PROTECTION

- ▶ **sandblast the rebars** and remove all loose particles such as rust flakes or fragments of material that could lead to corrosion or impair bonding. Scarification of the substrate with hydro-blasting also effectively cleans the bars, making sandblasting unnecessary.
- ▶ **protect the reinforcement bars** by re-alkalising them with the corrosion-inhibiting agent DRACOSTEEL.

ADDITIONAL REINFORCEMENT FOR STRUCTURAL REQUIREMENTS

- ▶ If the designer requires extra reinforcement for technical or structural reasons, or for lifts thicker than 3 cm, it is possible to apply an electro-welded mesh with the use of spacers (at least 1 cm from the substrate) and rebar covers of at least 1.5 - 2 cm.

FORMWORK

FLUECO 80 C QUICK can be installed by casting, including pouring into formwork. However, the maximum thickness must not be exceeded. The formwork must be waterproof and adequately anchored and sealed to prevent absorption of the mixing water, leakage of material or blowout of the sides due to the pressure created by the jet of mortar. When wooden formwork is used, this must be saturated with water to prevent the wood absorbing water from the mix.

MORTAR PREPARATION

The mixing of the mortar **FLUECO 80 C QUICK** is carried out using an on-site concrete mixer. Pour the mixing water into the cement mixer according to the recommended mixing ratio indicated in the Table. We recommend preparing small batches of product due to the fact that the product sets quickly (roughly 5 - 6 bags a time). Add slowly, mixing for at least 4 to 5 minutes until the mix is smooth and free of lumps. Make sure that all the product has been properly mixed in and that there are no residues of powder on the sides or bottom of the concrete mixer. To prepare small quantities of product use a suitable vessel or container and respect the recommended mixing proportions. We recommend the use of a mechanical agitator at low speed to reduce air entrapment. **PRESIDIO SRA**, when added to the mix at the dosage of 1% on weight of mortar (0.25 kg per each bag), acts as an internal curing additive and helps the expansion in air. **PRESIDIO SRA** affects the curing process of mortar, this is why for this product it is recommended to adjust the dosage to the ambient temperature. With hot climates **PRESIDIO SRA** permits to keep good workability, whereas in case of temperatures of 5 - 10°C it is possible to reduce the dosage, to avoid slowing down the setting times too much.



PRECAUTIONS IN HOT CLIMATES

- ▶ store **FLUECO 80 C QUICK** away from direct sunlight;
- ▶ use low temperature mixing water
- ▶ carry out the work in the early hours of the morning, and stop work when the sun is strongest. It is better to resume working in the late afternoon, as long as the structure has been wet continuously for at least 6 hours before work starts;
- ▶ to achieve optimum performance from **FLUECO 80 C QUICK** you should ensure proper curing by applying **PROBETON CURING N** by spray or by brush.



PRECAUTIONS IN COLD CLIMATES

- ▶ Store **FLUECO 80 C QUICK** in a heated environment where possible;
- ▶ use heated mixing water;
- ▶ do not use the product at temperatures below 0 °C;
- ▶ start work in the later hours of the morning;
- ▶ make sure that the substrate is not frozen.

SUBSTRATE SATURATION WITH WATER

Carry out all the procedures to prepare the substrate then saturate the concrete or masonry with hot water continuously for at least 6 hours before laying **FLUECO 80 C**. Any excess water on the surface must be removed with compressed air or cloths.

APPLICATION

FLUECO 80 C QUICK can be applied by pouring or casting in formwork, with either fluid or super fluid consistency. The product must be applied on clean, roughened surfaces that have been saturated with water as described in the previous paragraph. **FLUECO 80 C QUICK** maintains workability for roughly 15 - 20 minutes according to ambient temperature, and is applied in thickness up to 3 cm per layer: for greater thicknesses we recommend using the fast-setting, pourable, cement-based mortar **FLUECO 60 QUICK**.

Pumping mortar into formwork requires specific precautions to ensure it is installed correctly: the casting must be done slowly and only on one side to facilitate the expelling of air. Thanks to the rheological features of **FLUECO 80 C QUICK** and its high fluidity it penetrates easily into tight spaces and where the reinforcement is complex. It is not necessary to vibrate while casting the mortar.

FLOATING

To level exposed surfaces and impede micro-cracking caused by plastic shrinkage we recommend smoothing the mortar once it has set (approx. 20 min. at 20°C) with a damp sponge float to remove surface air-bubbles. Avoid prolonged floating during finishing to avoid pull-off cracks.

FLUECO 80 C QUICK



CURING

PRESIDIO SRA, when added to the mix at the dosage of 1% on weight of mortar, acts as an internal curing additive, regulates the evaporation of mix water, thus reducing shrinkage and fissures, also helping the curing process. Adding FLUECO 80 C QUICK with PRESIDIO SRA permits to achieve proper expansion in air, thus reducing shrinkage phenomena by 20-50%, compared to the product without additives. To ensure a proper curing process of the product even in dry climates or when surfaces are exposed to excessive wind or sunlight, it is recommended to use the curing compound PROBETON CURING N. To ensure proper curing of the product even in dry climates, or where surfaces are exposed to excessively windy or sunny conditions, we in any case recommend the use of the curing membrane PROBETON CURING N.

PACKAGING AND STORAGE

FLUECO 80 C QUICK is packaged in 25 kg bags

If kept in its original packaging and properly stored under cover in a dry place, the product maintains its characteristics for a year.



PRODUCT CHARACTERISTICS

✓CE	APPEARANCE	Grey powder
	MAXIMUM AGGREGATE SIZE (COMP. A)	2.5 mm
	BULK DENSITY	approx. 1.2 kg/l
✓CE	CHLORIDE ION CONTENT - UNI EN 1015-17	0.021 %
	PACKAGING	25 kg bags

APPLICATION DATA







	MIX COLOR	Grey
	MIXING WATER	4 ÷ 4.5 l per bag
✓CE	DENSITY OF MIX - UNI EN 12190	2270 kg/m ³
✓CE	MIX CONSISTENCY - LAVORABILITÀ MALTE COLABILE - UNI EN 13395-2	29 cm
	POT LIFE OF MIX	+5° C to +35° C
	DURATA DELL'IMPASTO	approx. 30 minutes (20° C - 50% RH)
	COMPLETE SETTING	approx 28 days to +20°C
	THICKNESS OF APPLICATION	4 cm
	CONSUMPTION	19.5 kg/m ² per cm of thickness

TECHNICAL SPECIFICATIONS



FLUECO 80 C QUICK, produced by **Draco Italiana SpA**, is a fast-setting, cement-based, fibre-reinforced mortar that is shrinkage-compensated and sulphate resistant for structural repair and restoration of concrete structures by casting in tight spaces. It can be cast in layers up to 3 cm thick. The product must be characterised by high adhesion to the substrate, water-tightness and development of high initial and final mechanical strength and comply with the requirements defined in EN 1504-3 for Class R4 structural mortars. All instructions and precautions followed must comply with the recommendations given by the manufacturer: **Draco Italiana SpA**.

FINAL PERFORMANCE 17 % MIXING WATER (20° C - 50% RH)

CHARACTERISTICS	TEST METHOD	REQUIREMENTS IN ACCORDANCE WITH PERFORMANCE EN-1504-3 FOR CLASS R4 MORTARS	PRODUCT PERFORMANCE
 COMPRESSIVE STRENGTH	EN 12190	≥ 45 MPa (after 28 days)	22 MPa at 1 day 35 MPa at 3 days 43 MPa at 7 days 50 MPa at 28 days
FLEXURAL STRENGTH	EN 196/1	None	4.5 MPa at 1 day 6 MPa at 7 days 7.5 MPa at 28 days
 COMPRESSIVE MODULUS OF ELASTICITY	EN 13412	≥ 20 GPa (after 28 days)	29 GPa
 BOND STRENGTH ON CONCRETE (substrate of type MC 0.40 w/c ratio = 0.40) according to EN 1766	EN 1542	≥ 2 MPa (after 28 days)	2.8 MPa
CONTRASTED EXPANSION IN AIR FTER 7 DAYS (%)	UNI 8146	None	0.03%
CONTRASTED EXPANSION IN AIR FTER 28 DAYS (%)	UNI 8147	None	0.035%
 RESISTANCE TO ACCELERATED CARBONATATION	EN 13295	Depth of carbonatation ≤ reference concrete type (MC 0.45 water/cement ratio = 0.45) according to UNI 1766	Meets specifications (*)
CAPILLARY ABSORPTION	EN 13057	≤ 0.5 kg/m ² · h ^{0.5}	< 0.5 kg/m ² · h ^{0.5}
SKID RESISTANCE	UNI EN 13036-4	Class I: >40 units wet tested Class II: >40 units dry tested Class III: >55 units wet tested	Class II and III
 THERMAL COMPATIBILITY measured as bond strength according to EN 1542 on concrete type MC 0.4 UNI EN 1766: freeze-thaw cycles with de-icing salts	EN 13687/1	≥ 2 MPa (after 50 cycles)	2.6 MPa 2.3 min.
 REACTION TO FIRE	EN 13501 - 1	Euroclass A1	Manufacturer's declared value

* Specification satisfied with the addition of PRESIDIO SRA to **FLUECO 80 C QUICK**

Legal notice - SLCMP version dated 01.03.2017

In the technical specifications herein, Draco Italiana s.p.a. used the indicators therein specified, with the relevant standards. Please check if this Sheet and the figures therein contained apply to the product batch you are interested in or if they have been overridden by any later release. If in doubt, check whether this Sheet matches the one applicable at the time of finalising the sales agreement, at www.draco-edilizia.it, and/or contact our Engineering Department. No advice provided by our staff, either verbally or in writing at your request, about the potential applications of the Products shall be binding under the sales agreement or shall be considered an integral part of the agreement. Such advice is based on our experience and on the best available practical and/or scientific knowledge; as such, it shall not be binding or conditional on the buyer or user. Please try our products first to find out whether they are fit for your intended use or application; in any case, you shall be solely responsible for your choice.